

CLAIMS

1. A method in a communication device, the method comprising:

5 receiving network system information,
the network system information including information about multiple core networks sharing a common access network without identifying the multiple core networks;

10 attempting to connect to a core network based on the information about multiple core networks sharing the common access network.

2. The method of Claim 1,
15 automatically selecting the core network to which the communication device attempts to connect among the multiple core networks sharing the common access network.

20 3. The method of Claim 1,
presenting the multiple core networks for manual selection at the communication device,
changing the order of presentation of the multiple core networks.

4. The method of Claim 1,
attempting to connect to the core network identified by a
network entity.

5

5. The method of Claim 1,
information about the multiple core networks indicating how
many multiple core networks share the common access network,
10 selecting the core network to which the communication device
attempts to connect by selecting one of the multiple core networks without
knowing identities of the multiple core networks.

15 6. The method of Claim 1,
the information about the multiple core networks sharing the
common access network includes a number corresponding to the number of
multiple core networks sharing the common access network,
each of the multiple core networks associated with a
20 corresponding number within a range specified by the number of multiple
core networks sharing the common access network,
attempting to connect to the core network includes transmitting
a message specifying the number associated with the core network to which
the communication device attempts to connect.

7. The method of Claim 6, at least some of the multiple core networks sharing the common access network having corresponding different core network identities.

5

8. The method of Claim 1,
receiving a connection rejection from the core network to which the communication device attempts to connect,
receiving identities for at least some of the multiple core
10 networks sharing the common access network.

9. The method of Claim 8, receiving an identity of the core network to which the communication device attempts to connect.

15

10. The method of Claim 8, attempting to connect to the core network based on a selection of the core network made at one of the communication device and a network entity.

20

11. The method of Claim 1,
receiving network system information includes receiving system information in a wireless broadcast message,

the system information including information about multiple core networks sharing a common radio access network without identifying the multiple core networks;

attempting to connect to a core network based on the system
5 information about multiple core networks sharing the common radio access network.

12. The method of Claim 1, attempting to connect to the core
10 network includes sending a connection request, the connection request including an identity of a home core wireless communications network of the wireless communication device.

13. The method of Claim 1, attempting to connect to the core
15 network includes sending a connection request, the connection request including identities of at least some preferred core wireless communications networks.

20 14. A method in a communication device, the method comprising:
receiving system information,

the system information including pointer information indicating where the communication device may obtain information about multiple core networks sharing a common access network from which the system information was received;

5 attempting to connect to one of the multiple core networks using the information about multiple core networks sharing the common access network from which the system information was received.

10 15. The method of Claim 14,
selecting the one of the multiple core networks to which the communication device attempts to connect using the information about multiple core networks sharing the common access network from which the system information message was received.

15 16. The method of Claim 14,
obtaining an identity for the core network to which the communication device attempts to connect using the pointer information.

20 17. The method of Claim 14,
the system information including a common identity for the multiple core networks sharing the common access network,

attempting to connect to one of the multiple core networks sharing the common access network from which the system information was received upon satisfaction of a condition,

5 attempting to connect to a core network using the common identity when the condition is not satisfied.

18. A method in a communication device, the method comprising:

10 receiving system information ,

the system information including a pseudo identity, the pseudo identity common to multiple core networks sharing common access network;

15 receiving multiple core network identities corresponding to the multiple core networks sharing the common access network in response to attempting to connect to a core network using the pseudo identity.

20 19. A method in a communication device, the method comprising:

receiving first system information from a first access network and receiving second system information from a second access network, the first system information including a first core network identity and

information on how many core networks share the first access network, the second system information including a second core network identity ,
selecting one of the first and second core network identities
based on the number of core networks sharing the first access networks.

5

20. The method of Claim 19,
weighting the first identity based on the number of core
networks sharing the first access network,
10 weighting the second identity based on the number of core
networks sharing the second access network,
selecting the one of the first and second identities based on the
weighted first and second identities.

15

21. The method of Claim 19, selecting the one of the first and
second identities randomly.

20

22. The method of Claim 19, selecting the one of the first and
second identities only if the first and second access networks satisfy a
quality condition.

23. The method of Claim 19,

the selected one of the first and second core network identities
is a pseudo identity common to multiple core networks sharing the
corresponding access network,

5 after selecting the core network identity, selecting one of the
multiple core networks sharing the corresponding access network based on
information in the corresponding system information.

10 24. The method of Claim 23, selecting the one of the multiple
core networks without specifying the identity of the core network selected.

15 25. A method in a communication device, the method
comprising:

receiving information about multiple core networks sharing a
common access network,

20 the information including at least one of identities of at least
some of the multiple core networks sharing the common core network, core
network domain information, information on services supported by at least
some of the multiple core networks sharing the common access network;

selecting a core network to which the communication device
attempts to connect using the information received.

26. The method of Claim 25,
receiving the information in response to an unsuccessful core
network connection attempt.

5

27. A communications system information message, the
communications system information message comprising:

an information block,

10 the information block including a data field for a number
indicating how many core networks share a common access network.

15 28. The communications system information message of Claim
27, the information block is a core network-identifying portion of the system
information message.

20 29. The communications system information message of Claim
27, the information block is devoid identities of core networks sharing the
common access network.

30. A communications system information message, the communications system information message comprising:

an information block,

the information block including a pointer to a location where identities for multiple wireless communications core networks sharing a common access network may be obtained.

31. The communications system information message of Claim 30, the information block is devoid identities of wireless communications core networks sharing the common access network.

32. A communications system information broadcast message, the communications system information broadcast message comprising:

an information block,

the information block including a pseudo network identity identifying multiple core networks sharing a common access network.

33. A network connection request message, the network connection request message comprising:

an information block,

the information block including a data field for indicating that a network entity may select, on behalf of a communication device, one of a plurality of core networks sharing a common access network.

5

34. A method in a communications network entity, the method comprising:

receiving preferred core network information from a communication device;

10

selecting a core network for the communication device;

giving consideration to the preferred core network information received from the communication device when selecting the core network for the communication device.

15

35. The method of Claim 34,

receiving the at least one preferred core network from a communication device in a connection request from the communication device.

20

36. A method in a communications network entity, the method comprising:

receiving a communication device identity from a
communication device;

selecting a core network from multiple core networks sharing a
common access network for the communication device based on the
communication device identity.

37. The method of Claim 36, at the network entity, receiving
the communication device identity from the communication device in
response to the network entity requesting the communication device
identity.

38. The method of Claim 37, at the network entity,
receiving a connection request from the communication device,
requesting the communication device identity in response to
receiving the connection request from the communication device.